Yongcheng Liu | Asst. Prof.

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National Laboratory of Pattern Recognition, CASIA, Beijing, China

Education

Ph.D in Pattern Recognition and Intelligent system
School of Artificial Intelligence, University of Chinese Academy of Sciences, Beijing, China 2015–2020

B.E in Control Technology and Instrument
School of Automation, Huazhong University of Science and Technology, Wuhan, China 2011–2015

Research Interests

3D point cloud processing, image segmentation, video understanding, multi-label recognition, object detection, deep learning

Experience

Sensetime - Researcher in Computer Vision..... 2017.11–2018.06

CASIA - Assistant Professor in NLPR..... 2020.06–Now

Publications

Conference

[C-1]: **Yongcheng Liu**, Bin Fan, Shiming Xiang, Chunhong Pan. Relation-Shape Convolutional Neural Network for Point Cloud Analysis. In *IEEE Conference on Computer Vision and Pattern Recognition* (**CVPR**), **Oral Presentation & Best Paper Finalist**, pages 8895-8904, 2019.

[C-2]: **Yongcheng Liu**, Bin Fan, Gaofeng Meng, Jiwen Lu, Shiming Xiang, Chunhong Pan. DensePoint: Learning Densely Contextual Representation for Efficient Point Cloud Processing. In *IEEE International Conference on Computer Vision* (**ICCV**), pages 1-10, 2019.

[C-3]: **Yongcheng Liu**, Lu Sheng, Jing Shao, Junjie Yan, Shiming Xiang, Chunhong Pan. Multi-Label Image Classification via Knowledge Distillation from Weakly-Supervised Detection. In *ACM International Conference on Multimedia* (**ACM MM**), pages 700-708, 2018.

[C-4]: **Yongcheng Liu**, Bin Fan, Lingfeng Wang, Jun Bai, Shiming Xiang, Chunhong Pan. Context-Aware Cascade Network for Semantic Labeling in VHR image. In *IEEE International Conference on Image Processing* (**ICIP**), **Oral Presentation**, pages 575-579, 2017.

[C-5]: Jianbo Liu, **Yongcheng Liu**, Ying Wang, Veronique Prinet, Shiming Xiang, Chunhong Pan. Decoupled Representation Learning for Skeleton-Based Gesture Recognition. In *IEEE Conference on Computer Vision and Pattern Recognition* (**CVPR**), pages 5751-5760, 2020.

[C-6]: Hua Lin, Bin Fan, **Yongcheng Liu**, Yirong Yang, Zheng Pan, Jianbo Shi, Chunhong Pan, Huiwen Xie. PointSpherical: Deep Shape Context for Point Cloud Learning in Spherical Coordinates. In *IEEE International Conference on Pattern Recognition* (**ICPR**), pages 1-8, 2020.

[C-7]: Yirong Yang, Bin Fan, **Yongcheng Liu**, Hua Lin, Jiyong Zhang, Xin Liu, Xinyu Cai, Shiming Xiang, Chunhong Pan. Deep Space Probing for Point Cloud Analysis. In *IEEE International Conference on Pattern Recognition* (**ICPR**), pages 1-8, 2020.

[C-8]: Xing Nie, **Yongcheng Liu**, Shaohong Chen, Jianlong Chang, Chunlei Huo, Gaofeng Meng, Weiming Hu, Chunhong Pan. Differentiable Convolution Search for Point Cloud Processing. In *IEEE International Conference on Computer Vision* (**ICCV**), pages 1-10, 2021.

Journal

[J-1]: **Yongcheng Liu**, Bin Fan, Lingfeng Wang, Jun Bai, Shiming Xiang, Chunhong Pan. Semantic Labeling in Very High Resolution Images via A Self-Cascaded Convolutional Neural Network. *ISPRS Journal of Photogrammetry and Remote*

Sensing. vol.145, pp.78-95, Nov. 2018.

[J-2]: Jianbo Liu, Ying Wang, **Yongcheng Liu**, Shiming Xiang, Chunhong Pan. 3D PostureNet: A unified framework for skeleton-based posture recognition. *Pattern Recognition Letters.* vol.145, pp.78-95, Nov. 2018.

Professional Services

- Conference reviewer of
  - IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2020, 2021, 2022
  - IEEE International Conference on Computer Vision (ICCV), 2021
  - International Joint Conference on Artificial Intelligence (IJCAI), **Senior Program Committee Member (SPC)**, 2021
  - AAAI Conference on Artificial Intelligence (AAAI), Program Committee Member (PC), 2022
  - IEEE International Conference on Multimedia and Expo (ICME) 2021
  - Asian Conference on Computer Vision (ACCV), 2020
  - Winter Conference on Applications of Computer Vision (WACV), 2021, 2022
- Journal reviewer of
  - IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)
  - IEEE Transactions on Image Processing (TIP)
  - ISPRS Journal of Photogrammetry and Remote Sensing
  - IEEE Transactions on Circuits and Systems for Video Technology (TCSVT)
  - IEEE Transactions on Multimedia (TMM)
  - Pattern Recognition
  - Neurocomputing
  - PLOS ONE
  - IET Image Processing
  - ACM Transactions on Multimedia Computing, Communications and Applications (TOMM)
  - Multimedia Systems

Awards

Best Paper Finalist, CVPR 2019
National Scholarship, Ph.D, 2019
National Scholarship, B.E, 2014

Technical Skills

- Computer Languages: MATLAB, Python, C/C++, LaTeX
- Deep Learning Platforms: PyTorch, Caffe
- Operating Systems: Linux/Unix, Windows
- Productivity Tools: MATLAB, PyCharm, Microsoft Visual Studio, Vim